

Abstract No. jone0513

**Fluorescent CMT on a Single Sediment Grain from National Institute of Standards and Technology Standard Reference Material 1944 (New York/New Jersey Waterways Sediments)**

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Beamline(s): X26A

The elemental distribution of elements through the volume of individual sediment particles is of interest since it is relevant to transport and cleanup of toxic elements in the Port of New York and New Jersey. We investigated this question using fluorescence computed microtomography at beamline X26A. The measurements were based on a translate/rotate measurement using a beam size of 0.0110 mm and an energy of 16 KeV. The pixel size was 0.01 mm. The single grain sample was glued to the end of a 0.100-mm glass rod for the experiment. A photomicrograph of the particle is shown in Figure 1. The relative concentrations of Fe and Sr are shown in Figure 2. These show that there is a general distribution of each element through the interior of the particle along with some hot spots. The results suggest that the apparent single particle could be a composite or that there are micro cracks giving access to the interior. This distribution would affect the accessibility of metals for transport or for cleanup procedures.

**Acknowledgments:** Work supported in part by the US Department of Energy under Contract No. DE-AC02-98CH10886 and the US Environmental Protection Agency Region 2 under Interagency Agreement No. DW89941761-01 with the US Department of Energy.

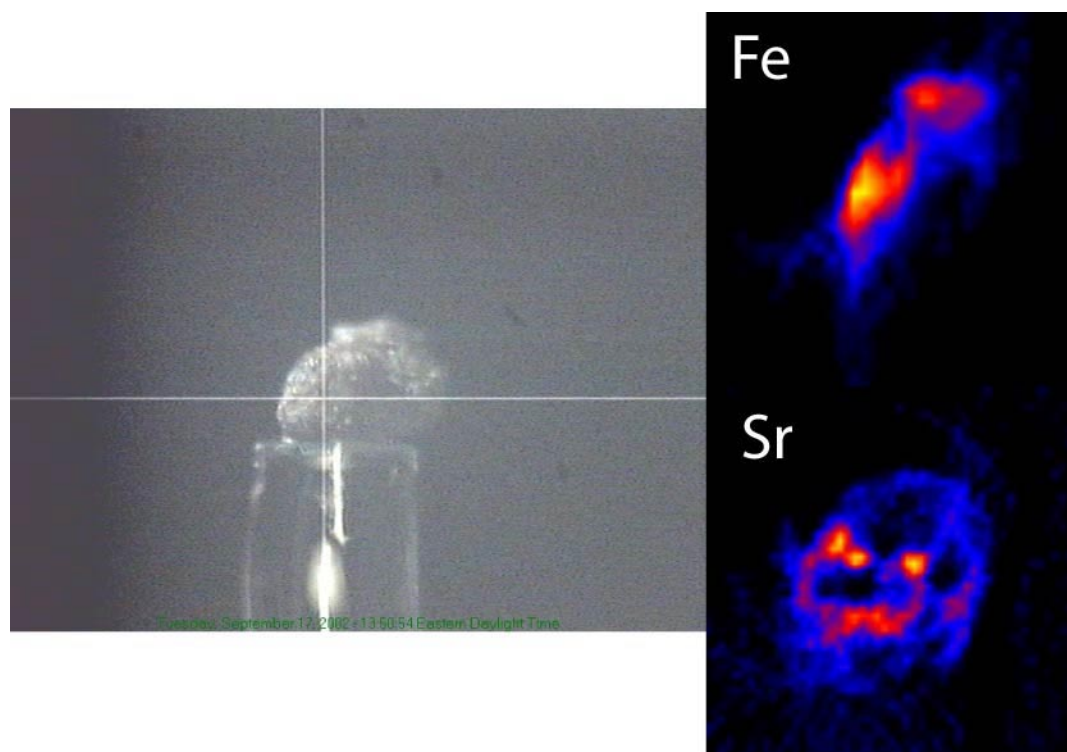


Figure 1. Photomicrograph of mounted sediment grain.

Figure 2. Relative concentrations of Fe and Sr in a section through a single particle. There are definite hot spots shown in the data and a general concentration through the particle interior.